either with CABG (106 pts) or DES (105 pts). Decision to treat with CABG or PCI was dependent on the patient's and the physisican's choice. The occurrence of major adverse cardiac or cerebrovascular events (MACCE: death, non fatal myocardial infarction or stroke) and revascularisations was recorded after one year follow-up. A multivariate logistic regression analysis was performed, using a propensity score method to take into account potential baseline differences between groups.

Results: In-hospital MACCE rates were 5.7% and 3.8% in CABG and PCI groups, respectively (p=0.748). After, one-year follow-up, rates were respectively 15.4% and 16.3% (p=0.865). Rates for target vessel revascularisation at 12 months were 1.1% and 15.2% (p<0.001). PCI group was significantly associated with older age, dyslipidaemia, history of cancer, high euroscore, elevated creatininemia, single vessel disease, chronic occlusion of left anterior descending artery and LMCA stenosis ≥70%. The multivariable logistic regression analysis was adjusted for age, diabetes, left ventricular ejection fraction, euroscore, and stratified on the propensity score to be treated with PCI. In the subgroup below median propensity score, the adjusted odds ratio for one-year MACCE was OR=0.98 (95% confidence interval: 0.17 to 5.67; p=0.981) whereas OR was 0.20 (0.04 to 0.97; p=0.046) in the subgroup above median propensity score.

Conclusions: In patients with a high probability to be treated with PCI (older age, high euroscore, high creatininemia, single vessel disease…), one-year risk of death was significantly lower in PCI as compared to CABG treated subjects. No significant difference was found in other cases.

023

Impact of time on thrombus composition in STEMI patients treated with Primary PCI

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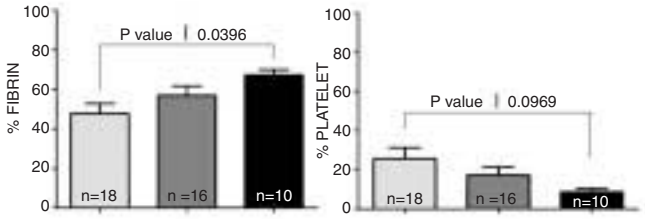
Aim: To identify factors associated with change in thrombus pattern in STEMI patients undergoing primary PCI.

Methods: Thrombi (n=45) were obtained using the Export thromboaspiration device in consecutive STEMI early presenters (<12hours from symptoms onset) undergoing primary PCI. Ten different areas of each thrombus were randomly scanned using a Scanning Electronic Microscope (4nm resolution). High definition pictures (Magnification 3000X) were analysed in a blinded way by a semi-quantitative and a visual approach to evaluate fibrin and platelet content (in %). The primary endpoint was fibrin and platelet content according to time delay from symptom onset (SO). All patients were enrolled in the web-based registry (e-PARIS).

Results: Mean age was 59+/-14 years, 25 (83%) were male, 16 (53%) were smoker, 12 (40%) had hypertension, 12(40%) dyslipidemia and 7(23%) were diabetic. 4 patients (13.3%) had pre-hospital cardiac arrest and 25 patients (83%) had a single vessel disease. All Patients received aspirin, clopidogrel, enoxaparin or UHF and 25 (83%) received abciximab. Thrombi were composed by 55.9±18% of fibrin (mean±SD), 16.8±18% of platelets, 11.5±9 % of red cells, 5.2±8.4 % of cholesterol crystal, 1.3±2.0 % of white cells, and 2.8±3.7% mixed cell-fibrin. Median time delay from SO to PCI was (182 min +/- 235 IQR). There was a stepwise decrease in platelet content with respect to prolonged time delay from SO to PCI ranging from 25.6±25% in the first tertile down to 8.7±7% in the third tertile (p=0.09) (fig.). On the other hand, there was a stepwise increase in fibrin content ranging from 47.8±24% up to 67.3±9% (p=0.04). Analysis of other determinants of clot composition and relation with myocardial TIMI Blush Grade is pending.

Conclusions: Platelet and fibrin content within the occlusive thrombus of early STEMI presenters is a fast evolving process. Time delay from symptom onset is a key determinant of thrombus composition.

Thrombus content in STEMI according ischemic time



024

Acute hyperglycemia is associated with adverse outcome after primary angioplasty for acute myocardial infarction: GLAMI Study

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Hyperglycemia has been shown to be a powerful predictor of worse outcome after ST segment-elevation myocardial infarction (STEMI).

The aim of this study was to investigate the relation between acute hyperglycemia (AHG) and in-hospital outcome after primary angioplasty for STEMI.

Patients and Methods: We prospectively included 250 patients who underwent revascularization with primary angioplasty for STEMI, Plasma glucose was measured at hospital admission. Acute hyperglycemia was defined as plasma glucose of 11 mmol/L (198 mg/dL), regardless of the diabetic status.

Results: Among the 250 patients with STEMI included in the study, 124 (49.6%) patients had acute hyperglycemia. There was no difference among the two groups with regard to clinical characteristics except for the presence of diabetes (58%vs 7.1%, p<0.001), hypertension (21.4% vs 38.7%, p=0.002) and hyperlipidemia (4.8% vs 14.5%, p=0.007. At admission, patients with AHG were more likely to have tachycardia (26.6 % vs 14.3%, p=0.012) and to present heart failure (24.2% vs 12.7%, p=0.01). The admission TIMI flow was similar in the two groups. TIMI 3 flow postprocedure was more common in patients without AHG (89.7% vs 75%, p=0.002). The in-hospital mortality rate was significantly higher in patients with AHG than in patients without (22.6% vs 4.8%, p <0.001) . In multivariate analysis, independently of other determinants of death (age, risk factors, location of STEMI, infarct size, incomplete resolution of ST-segment and angiographic success), acute hyperglycemia was a predictor of in-hospital mortality (OR: 3.14; 95% IC, 1.5-6.5; p=0.0001).

Conclusion: Acute hyperglycemia in patients with STEMI was an important predictor of mortality, this suggest the usefulness of evaluating early glycemic control in the setting of reperfusion for acute myocardial infarction.

025

Benefit of Drug Eluting Stents over Bare Metal Stents after Rotational Atherectomy. A propensity score adjusted comparison in revascularization, mortality and MACE.

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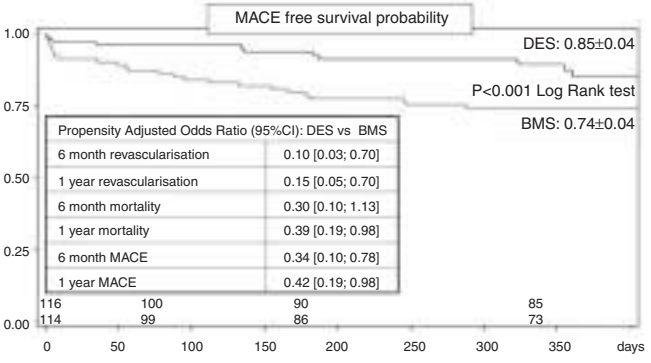
Rationale: Rotational atherectomy makes possible to attempt small and calcified arteries while Drug Eluting Stents (DES) properties may reduce the restenosis process, rendering this combination attractive in selected cases. We compared 1year clinical outcome after rotational atherectomy following by either DES or Bare Metal Stents (BMS) implantation.

Methods: Single centre registry including all consecutive cases of rotational atherectomy use. Clinical follow-up was obtained in all patients. Propensity score for being treated with a DES was calculated using 18 clinical,

angiographic and procedural variables. Comparison was adjusted on 4 strata of the propensity score.

Results: Between 2002 and 2008, 223 patients were treated: 114 with BMS and 110 with DES. Most of the patients with BMS between 2002 and 2004 and later with DES. No significant difference was observed in clinical characteristics between groups: age 70 years, reference diameter 2.40±0.60mm, lesion length 10±9mm. Two cases of coronary perforation occurred, 7 lesion failure, and 12 transcient no-reflow. The use of GP2b3a inhibitors was similar in both groups, but, compared with BMS, patients in the DES group had longer duration of combination of aspirin and Clopidogrel. At one year, significantly lower rates of vessel revascularisation (2% vs 12%, p=0.005), of all cause mortality (5% vs 14%, p=0.05) and of MACE (10% vs 22%, p=0.02) were observed in the DES than in the BMS group. Adjustment on the strata of the propensity score did not change significantly these results (figure).

Conclusions: Despite propensity score adjusted, this comparison has limitations. After rotational atherectomy we observed clear benefit for DES implantation over BMS on vessel revascularisation, mortality and MACE rates.



026

Impact of diabetes mellitus on residual platelet reactivity in coronary patients treated by dual antiplatelet therapy with aspirin and clopidogrel

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Background: Numerous recent studies showed that about 4 to 30% of patients treated with conventional doses of clopidogrel do not display adequate antiplatelet response and then the concept of clopidogrel resistance has arisen. Recently, a number of observations have indicated that patients with diabetes mellitus (DM) exhibit persistent platelet activation and low response after antiplatelet therapy.

Objective: The purpose of this study was to establish the prevalence and the predictive factors of the resistance to clopidogrel in a coronary artery disease population, using ex vivo measure of platelet aggregation: the cone and platelet analyzer.

Methods: The population of this prospective study was comprised of 105 patients with acute coronary syndrome. Mean age was 57.8 ± 10.8 years, 81.9 % were males, 36,5% patients had history of hypertension, 54,3% patients were diabetic. Patients were given a loading dose of 300-600 mg followed by a maintenance dose of 75 mg on top of a maintenance dose of aspirin ranging from 125 mg to 250 mg. Platelet aggregation was assessed using the Impact R (Diamed®). The degree of platelet adherence was evaluated as a percentage of surface coverage (SC). Residual platelet reactivity was defined as a SC ≤ 2.8 %.

Results: The mean surface coverage was of 7.78 + 4.29 %. We found that 17.1 % of our population was clopidogrel resistant. By univariate analysis female sex and diabetes were associated with an increased incidence of clopidogrel resistance, nevertheless, by multivariate analysis, diabetes was the only independent predictive factor, (OR=3.5, IC 952[1.1-11.4]; P=0.0039). The prevalence of clopidogrel resistance was higher in diabetic patients compared to non diabetics (24.6% vs 8.3%; p=0.02) respectively. This prevalence was greater in diabetic patients treated by insulin (30%). Concomitant medication did not influence the incidence of clopidogrel resistance in particular the use of Omeprazol and Atorvastatin.

Conclusions: Diabetic patients do not respond well to the available antiplatelet regimen when compared with similar patients without DM. The clinical implications of these findings are unknown but are potentially important.

027

Impact of Gamma' Fibrinogen in Premature Acute Coronary Syndrome: a cardiovascular risk factor?

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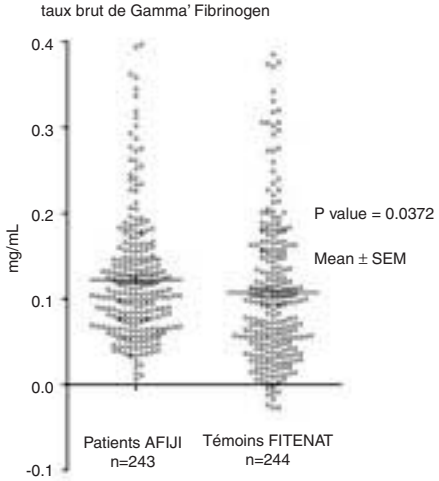
Background: Gamma' fibrinogen (γ'Fg) is a Fg isoform that constitutes about 15% of total plasma Fg and contains an additional binding site for factor XIII and for IIa forming clots that are resistant to fibrinolysis in vitro. Little is known about γ'Fg in the pathophysiology of Acute Coronary Syndrome (ACS) patients.

Aim: To compare γ'Fg level and the relation with fibrin clot physical properties in a young post-MI patients matched for age and gender and age with healthy controls.

Method: γ'Fg was measured in duplicates in 260 young post-MI patients and n=260 controls. Maximum fibrin elastic modulus (EM in dyne/cm2), a measure of clot stiffness (G') and Clot Lysis Time (CLT in sec) a measure of fibrinolysis rate were measured in all subject.

Results: Patients produced stiffer plasma fibrin with increased EM (24.4±15.9 vs 13.5±5.9 kdynes/cm^2 ; p<0.0001) with reduced fibrinolysis speed (1038±797 vs 595±416 sec; p<0.0001) in comparison with controls. γ'Fg concentration was significantly higher in patients compared to control (**Figure 1**) (p=0.037). However the ratio of γ'Fg over total Fg concentration (% of γ'Fg) was similar in both groups (3.7± 2% vs 3.5± 2.7% in controls; p=0.49). In patients there was a stepwise increase in clot stiffness (EM) with tertile of γ'Fg concentration (T1=13.7±7 T2=19.8±14 T3=23.7±16 in kdynes/cm^2) with a similar effect on hypofibrinolysis (CLT) (T1=675±550 T2=829±680 T3= 940±750) (p<0.0001 for both).

Conclusion: γ'Fg concentration was found to be significantly higher in young post-MI patients as compared to healthy controls matched for age and gender and may account for the great differences in fibrin clot physical properties between patients and controls, an independent correlate of premature coronary artery disease.



Gamma'Fg concentration in patients and controls